

**REMARKS/ARGUMENTS**

Applicants have carefully reviewed the Office Action of May 11, 2007 and note the allowance of claims 18, 19 and 22-34. Applicants have also studied the rejection of claims 54-71 based upon the disclosures of Tunis, III et al '972 (Tunis) and applicants' parent patent of Day et al '381. Accordingly, applicants are replacing rejected independent claims 54, 59 and 65-71 with new and expanded independent claims 72-79 to distinguish applicants' fiber reinforced core panel more clearly over all the references and to place these claims and the claims dependent therefrom also in condition for allowance.

For the convenience of the Examiner, applicants identify the drawing FIGS. corresponding to each of new claims 72-79. A major clarification and basic distinction is that in all of applicants' core panels, a row of blocks in a strip and/or parallel strips are always adhesive connected to each other prior to being placed as a unit in a mold where the overlying skins are added and resin is infused to form a molded panel.

Referring to new claim 72, **(FIGS. 16 & 17)** applicants' one-piece fiber reinforced core panel is adapted to be moved to molding apparatus where skins are added and resin is hardened. The core panel comprises an elongated continuous strip (220) including a row of longitudinally arranged and adhesive connected blocks (221) of low density rigid material, a first layer (176) and second layer (177) of continuous fibrous rovings helically wound around the row of adhesive connected blocks in the strip with all of the rovings extending continuously along the entire length of the strip around all of the blocks in the row, the rovings in the second layer extending helically in an opposite direction and crossing the rovings in the first layer, and reinforcing members (222) separate from the continuous fibrous rovings and extending between the adhesive connected blocks.

Applicants are unable to find any disclosure or teaching in Tunis of applicants' core panel as set forth above in new claim 72. As previously mentioned, every core described in Tunis is a single block of material, and every block or core,

if wrapped, is wrapped individually, either partially or fully, with a cloth or mat which may be in a tubular form, but still wraps only a single block. The individual blocks or cores are never adhesive connected together or unitized in Tunis prior to being placed into a mold and prior to the application of skins with resin. As stated in the Abstract of Tunis, "The structures incorporate cores, which may be hollow cells or foam blocks. A plurality of cores, each of which may be wrapped with a fiber material, is arranged in a layer on a mold with a fiber material arranged to form face skins." Nothing in Tunis suggests applicants' elongated continuous strip including a row of longitudinally arranged and adhesive connected blocks (221). There is also nothing in Tunis teaching first and second layers of continuous fibrous rovings (176, 177) helically wound around a strip formed by a row of adhesive connected blocks with all of the rovings extending continuously along the entire length of the strip around all of the blocks in the row, and with separate reinforcing members (222) between the blocks. Applicants' adhesively connected blocks 221 and reinforcing members 222 forming the strip 220 in FIGS. 16 & 17 is described in paragraph 0128. As also described, a major advantage of applicants' one-piece core panel is that it may be continuously produced on equipment as disclosed in FIG. 12 and is adapted to be moved to the molding apparatus, thereby substantially reducing the time and labor which would be required for producing a fiber reinforced composite panel according to the disclosure of Tunis.

The above comments also apply to new claim 73 which is directed to the core panel (280) disclosed in **FIGS. 24 & 25** and comprising an elongated strip including a row of longitudinally arranged and adhesive connected blocks (170) and further including continuous fibrous rovings (176, 177) helically wound around each of the blocks and extending between the adhesive connected blocks in the row, and with a first layer of continuous fibrous rovings (282) separate from the rovings (176, 177) and helically wound around the row of adhesive connected blocks with all of the rovings extending continuously along the entire length of the strip. Applicants

are unable to find any disclosure in Tunis either suggesting or teaching any such core panel structure as set forth in claim 73.

New claim 74 is directed to the one-piece fiber reinforced core panel (330) shown in **FIG. 31** and also adapted to be moved as a preformed unit to molding apparatus. The panel includes a plurality of elongated parallel continuous strips (170) each having opposite faces adhesively connected to corresponding fibrous facer sheets (332) extending perpendicular between opposite side surface of the core panel, a first layer and a second layer of continuous fibrous rovings (176, 177) helically wound around at least two adjacent parallel strips (170) with all of the rovings extending continuously along the entire length of the strips. The advantages of this core panel are set forth in paragraph 0145, and applicants are again unable to find anything in Tunis suggesting this panel structure.

New claim 75 sets forth the core panel (340) described in connection with **FIG. 32** and which is also adapted to be moved as a preformed unit to the molding apparatus. This core panel includes a plurality of elongated parallel continuous strips of low density cellular material, parallel spaced strips (178) each having a first layer and a second layer of continuous fibrous rovings helically wound around each of the parallel spaced strips with all of the rovings extending along the entire length of the strip with the rovings in the second layer crossing the rovings in the first layer, the parallel spaced strips having rovings being separated by parallel spaced strips without rovings, and all of the parallel spaced strips being adhesive connected together to form a unitized core panel with the rovings extending over opposite side surfaces on the parallel spaced strips. The advantages of this core panel are described in paragraph 0146, and the references, including Tunis, neither disclose nor suggest the panel structure.

New claim 76 is directed to the core panel (360) having the advantages described in paragraph 0149 and shown in **FIG. 34** and is similar to the core panel of **FIG. 32**. This core panel (360) is also adapted to be moved as a preformed unit to the molding apparatus and includes a plurality of elongated parallel continuous

strips (170) of low density cellular material, at least one layer of continuous fibrous rovings (176) helically wound around each of the strips with all of the rovings extending continuously along the entire length of the strip, the elongated parallel continuous strips with the helically wound around rovings adhesive connected with adjacent strips separated by longitudinally extending elongated unwound continuous reinforcing spacer strips extending longitudinally the entire length of the strips between opposite side surfaces of the core panel, and all of the elongated continuous strips including the spacer strips and the strips with the rovings being adhesive connected to form a unitized core panel (360) with the rovings extending over the core surfaces. Nothing in Tunis or in any of the other references provides any suggestion or teaching of this core panel structure.

With respect to new claim 77, applicants' core panel (261), as disclosed in **FIGS. 20-22** and described in paragraphs 0134-0136, comprises at least one elongated continuous strip including a row of longitudinally arranged and adhesive connected blocks (170) of low density cellular material, at least one layer of fibrous rovings (176) helically wound around each of the adhesive connected blocks, the elongated strip forming a unitized core panel with end portions (262) of the rovings terminating at opposite side surfaces of the core panel, and the elongated strip of adhesive connected blocks adapted to be moved as a preformed unit to the molding apparatus. As shown in FIG. 23, a number of the core panels 261 may be also adhesive connected by scrim (271) to form a substantially larger core panel (270) which is also adapted to be moved as a preformed unit to the molding apparatus.

New claim 78 is directed to the one-piece core panel shown in **FIG. 36** and includes a plurality of adhesive connected elongated hollow tubes (381), and at least one layer of fibrous rovings (176) helically wound around each of the tubes with all of the rovings extending continuously along the entire length of the tube, with the adhesive connected tubes and the helically wound around rovings being adhesive connected together to form a unitized core panel adapted to be moved as a preform unit to the molding apparatus. As mentioned above, all of the individual

hollow cells or cores disclosed in Tunis are not adhesive connected until they are individually inserted into a mold where the skins are added and the resin is infused.

Applicants' core panel disclosed in connection with **FIGS. 26 & 27** is set forth in new claim 79. This core panel (290) also includes a plurality of elongated adjacent continuous strips each including a row of longitudinally arranged and adhesive connected blocks (170) of low density rigid material, a first layer and a second layer of continuous fibrous rovings (281, 282) helically wound around each of the strips with all of the rovings extending continuously along all of the adhesive connected blocks in the entire length of the strip and with the rovings in the second layer crossing the rovings in the first layer, separate crossing rovings (176) extending between the adhesive connected blocks in each strip, all of which form a unitized core panel (290) adapted to be moved as a preformed unit to the molding apparatus. Applicants are also unable to find any suggestion or teaching in Tunis of their core panel including the structure set forth above in new claim 79.

Previously filed claims 59-67 and 69-71 were also rejected under 35 U.S.C. 102 (b) as being anticipated by applicants' parent patent, Day et al No. 6,740,381. As the Examiner has noted, applicants have previously claimed the benefit of the filing date of December 27, 2000 which is also the International filing date of applicants' PCT published application No. WO2001/47706. Thus applicants are entitled to this filing date for all common disclosure with the present application. Only a small portion of each of new claims 72-79 is not disclosed in applicants' parent patent and has the filing date of March 28, 2003. However, that new portion is not disclosed in Tunis for the reasons set forth above, and applicants submit that the only basis for rejecting applicants' new claims 72-79 under applicants' parent patent is under obvious-type double patenting. Since applicants have filed a Terminal Disclaimer in the above application, and the Disclaimer has been accepted, applicants submit that its parent '381 Patent is not available as a basis for rejecting new claims 72-79. Also, MPEP §2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either

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expressly or inherently described in a single prior art reference. As Examiner noted, the subject matter described in previously filed claims 59-71 is not fully supported by the disclosure of applicants' parent application which issued as the '381 Patent. Thus, 35 U.S.C. 102(b) cannot be a basis for rejecting previously filed claims or new claims 72-79. Applicants' parent '381 Patent may be considered prior art only with respect to the new matter in new claims 72-79, and the new matter is only a small portion of each claim. For example, in new claim 73, the new matter involves only the helically wound rovings (176, 177) extending between the adhesive connected blocks in place of the reinforcements 222 between the adhesive connected blocks 221 shown in FIG. 16 of applicants' '381 Patent.

In view of the foregoing, applicants submit that each of new claims 72-79 and the claims dependent from claim 72 and 73 sets forth a one-piece fiber reinforced core panel which is clearly distinguished over the prior art and especially Tunis '972. Accordingly, applicants believe that these new claims are now in condition for allowance with claims 18, 19 and 22-34, and respectfully request that this application be passed to issue.

Respectfully submitted,  
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